

Netherlands steps on the brakes

The Dutch government is less than enthusiastic about biofuels. It has set low domestic targets, putting a damper on investments. The only bright spot is the port of Rotterdam, which is aiming to become the “Bio-port” of Europe.



Protest against biofuels: no pristine forest in my tank. Photo: Ed Oudenaarden/ANP

| by *Monique Smits*

While a country like Sweden has over a thousand filling stations selling E85 (petrol containing 85% ethanol), bioethanol is still only sparsely available in the Netherlands. And while a number of European countries refrain from charging excise taxes on biofuels, the Netherlands persists in doing so.

According to biochemist Hans Derksen, Chairman of the Platform of Bio-Based Business in the Netherlands, the international debate about the use of agricultural produce for fuel has had a strongly negative impact on the government's attitude.

The Dutch Ministry of the Environment confirms his assessment. 'A fast growth in the demand for biofuels can lead to non-sustainable developments', says the Dutch Minister of the Environment, Jacqueline Cramer, on the Ministry's website. 'In addition, it is not possible yet to guarantee the origin of the biofuels.'

There is no reliable certification system. The government will only embrace biofuels if we can be sure they are produced sustainably.' Although the EU biofuels target is 5.75% in 2010, the Netherlands has lowered its domestic target to 4%. 'We do not want to go back to zero', says the Minister, 'in view of the investments that have been made. We don't want the market to disappear completely.'

'The Netherlands has never been keen on biofuels,' confirms Susan Hansen, director of cleantech research for Rabobank. 'Whilst France and Germany have already created a market for biofuels, for instance, and Spain, the United Kingdom and Sweden are investing millions in research, the Netherlands is still concerned about the sustainability of biofuels.'

In Hansen's view, it is remarkable that the country has taken a position on the sideline. 'The Netherlands has profiled itself as a country focused on the environment and being green. To be honest, I expected that the Netherlands would be the first to have legislation in place.'

One of the problems for manufacturers is that the EU has defined broad targets, but has not specified intermediate steps member states should take to promote biofuels. Hansen: 'Countries can formulate their own objectives. This makes it difficult for biofuel manufacturers to anticipate the market.' Derksen also believes investors are scared off by this uncertainty. 'They need a much more consistent policy.'

Throughout the sector, complaints can be heard about the state of affairs in the Dutch biofuels industry. This is not only the result of failing government support, but also of the credit crisis and the low oil price. 'The sense of urgency has diminished,' says Hans Derksen. He believes that is not justified. 'The IEA (International Energy Agency) is also of the opinion that now is the time to work on alternatives for fossil fuels. The low oil price is only a temporary reprieve from a peak oil situation.'

The same awareness exists in Europe's largest "energy port", Rotterdam. Rotterdam has the stated ambition to become Europe's "Bioport", that is to say, the foremost European centre for the production and distribution of biomass and biofuels. Currently seven biodiesel and bio-ethanol plants are being built in the Rotterdam area. Swiss producer Biopetrol is building the second largest biodiesel plant in the world in Rotterdam-Botlek (capacity 400,000 tons per year). In nearby Pernis, Argos Oil is building a biodiesel plant with a capacity of 250,000 tonnes. Another factory is planned on an adjoining site. Downstream in the area Spanish Abengoa Bioenergy is building a bio-ethanol factory with a capacity of 450,000 tons. According to the Rotterdam Bioport organisation, the plants will in time produce a quarter of the European biodiesel demand and 10 percent of bioethanol demand. All these projects are not dependent on the domestic Dutch market, but it is not yet clear how the international credit crisis will impact them.

Elephant excrement |

Symptomatic of the stagnating Dutch biofuels production sector, is the case

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of Nedalco. This manufacturer of pure alcohol, based in the town of Bergen op Zoom south of Rotterdam, has invented an innovative concept for second generation biofuels. It has signed a licensing agreement with Mascoma, an American market leader in the field of bioethanol production from woodlike biomass. Mascoma now uses yeast developed by Nedalco and the University of Delft. This yeast, based on a fungus isolated from the excrement of the Indian elephant, is used in the US to transform the sugars released from the wood biomass into bioethanol. Nedalco claims that its process is much

more efficient and faster than other yeasts. Delft University claims that the elephant yeast could double ethanol yields.

To test this claim on a large scale, Nedalco had planned to build a plant in the province of Zeeland. This was to produce 200 million litres of bioethanol on a yearly basis. However, the company has put the plan on the back burner. 'The Netherlands has a low import tariff – lower than most other European countries – for Brazilian bioethanol. The bioethanol we were going to produce is more expensive. That puts us in a difficult competitive position', says Mark Woldberg, Manager Commercial Development, 'Especially because we do not get any extra subsidies, and also because there is no European legislation for the production of second generation biofuels.'

The plant requires a €160 million investment. Nedalco had counted on a €40 million government subsidy, but the government only wants to chip in €11.4 million.

Woldberg believes that, in order to stimulate production and the use of second generation biofuels, a market must be created first. 'To create a good investment climate, second generation

biofuels must be made exempt from excise taxes, or it must become mandatory for oil companies to mix their fuels with second generation biofuels.'

Rudolf Diesel |

In spite of these difficulties, some biofuels projects are still running. Up in the far north of the country, in the province of Friesland, SolarOil Systems uses oil mills to press oil out of rapeseed. The company also adapts diesel engines to make them suitable for pure plant oils. This idea is entirely in the spirit of Rudolf Diesel. When Diesel developed his first engine in

the late 19th century, the fuel he used was vegetable oil. Only later were vegetable oils replaced by mineral oils.

'Excise taxes were the first hurdle we encountered when we wanted to use rapeseed oil as an alternative fuel for diesel engines,' says Hein Aberson of SolarOil. However, in 2005 Aberson and his son Ronald, the founder of SolarOil, managed to obtain a temporary excise tax exemption up to 2010 for a biodiesel test and pilot project, thanks to two Members of Parliament who forced through a motion against the government. As a result, SolarOil can sell 3.5 million litres of pure plants oils per year free of the normal excise tax of 65 eurocents per litre.

Aberson: 'Thanks to the temporary excise tax exemption, SolarOil has started to adapt diesel engines on a large scale.' As ordinary passenger cars require only minimum adaptations for the use of pure plant oils, the company has developed simple software which makes the diesel engine suitable for diesel, pure vegetable oil or any mix of these two. In addition, the company supplies 'two-tank-systems' for heavier trucks and marine diesels: a preheating system ensures that the engine switches over to plant oil after a few minutes once it has started on regular diesel.

In cooperation with the University of Groningen, SolarOil has developed a unique method of processing rapeseed oil that can be used by anyone. 'By adding enzymes from another rapeseed oil product – the rapeseed oil cake which is used as fodder – the rapeseed oil becomes as liquid as diesel oil', Aberson says. He claims that with his method plant oils could be sourced locally around the world. 'Developing countries can manufacture their own oil. They could become independent from oil and gas producing countries.'

SolarOil is determined to produce its innovative process elsewhere in the world under license. Aberson: 'The Netherlands is not the right country for this kind of innovation.' He finds the government's attitude strange. 'The Netherlands is the most polluted country in the western hemisphere and yet its government demonstrates very little flexibility and does not adhere to European directives when it comes to stimulating the production of pure plant oil.'

Natural gas |

In nearby Delfzijl, BioMCN, founded in 2006 by an international consortium of companies including Econcern and Chemie Invest, is planning to turn two

conventional methanol plants into biomethanol production facilities. The plan was not just inspired by environmental considerations. The traditional production of methanol with natural gas was no longer economical, according to ceo Rob Voncken. 'Worldwide competition became fiercer so we had to find a production method using a raw material other than natural gas. We chose glycerol, a product released during the production of biodiesel.' The cost price of biomethanol, which can be used in multifuel petrol cars and as a lead replacement in petrol, is cheaper than that of bioethanol, says Voncken. 'This is because we use a waste product as well as second generation technology to transform it into biomethanol.'

The first biomethanol plant, with a 200,000-ton capacity, will become operational in March. Capacity could eventually increase to 800,000 tons. 'By that time, we will have switched completely from methanol to biomethanol and we will be the largest manufacturer in the world', says Voncken. How fast the plant will grow depends on two factors, according to Voncken: 'Continuation of the development of the biofuel industry and the level of support from the government.' ■



Port of Rotterdam. Photo: Peter Hilz/Hollandse Hoogte